Destiny Rezendes @dezzie_rezzie

Dec 21, 2023 • 8 tweets • dezzie_rezzie/status/1737963752249520306

🚨1🧵The government MUST release the un-redacted complete Nov. 14, 2023 testimony of Peter Daszak. There must be a comparison between what he said in Nov. & what a set of freshly leaked DARPA proposals reveal.

2🧵The emails from Daszak [PD] to Baric [RB], Shi, & other EcoHealth [EH] staff on 2/7/2018 all review a draft proposal for DARPA in CoV research. RB may be able to alter viruses w/o being seen but he isn't nearly as skilled with editing grant proposals.

First (rough) draft of the DARPA abstract - Project DEFUSE

Peter Daszak <daszak@ecohealthalliance.org>

Wed 2/7/2018 8:51 PM

To: Ralph Baric (rbaric@email.unc.edu) <rbaric@email.unc.edu>; Wang Linfa <linfa.wang@duke-nus.edu.sg>; Zhengli Shi (zlshi@wh.iov.cn) <zlshi@wh.iov.cn>; William B. Karesh <karesh@ecohealthalliance.org>; Rocke, Tonie E <trocke@usgs.gov>
Cc: Luke Hamel <hamel@ecohealthalliance.org>; Jonathon Musser <musser@ecohealthalliance.org>; Anna Willoughby <willoughby@ecohealthalliance.org>; Kevin Olival, PhD <olival@ecohealthalliance.org>; Jon Epstein <epstein@ecohealthalliance.org>; Noam Ross <ross@ecohealthalliance.org>; Aleksei Chmura <chmura@ecohealthalliance.org>; Anna Willoughby <willoughby@ecohealthalliance.org>; Hongying Li <li@ecohealthalliance.org>

Dear All,

I've attached a first rough draft of the DARPA abstract. Apologies for the delay. Unfortunately, edits to my Science paper came through on Friday and took many hours to do, so this delayed me. I'm right now in Geneva in my hotel at 3 am finishing these off before flying back to NYC from a WHO meeting.

Some important points:

1) Zhengli, Linfa, Ralph – Billy and I spoke with Tonie Rocke on Friday. Tonie is at the National Wildlife Health Center, Madison USA, and has worked on wildlife vaccines: plague in prairie dogs, rabies in Jamaican fruit bats, white nose syndrome in US bats. We needed someone with expertise in delivery of molecules/vaccines to wildlife because DARPA specifically lay that out. As you'll see, Tonie is perfect for our project and will be able to do work at USGS NWHC and with Zhengli in China to help with TA2

?!

2) Zhengli and Linfa – After I spoke with you both, I had a great conversation with Ralph Baric. He proposed to work on recombinant chimeric spike proteins as a second line of attack. I think that is a perfect fit because 1) it's his expertise and he has published on it, 2) it will act as an alternative to the blue-sky and risky immune boosting work that Linfa/Peng have proposed. I hope you agree!

3) Ralph, Zhengli, Linfa, Tonie – as you can see, I have mangled the language/technical details for most of your sections. Pardon my lack of knowledge, and please draft a couple of paragraphs each to make your sections look correct. Thanks to Peng for giving me some text anyway – very useful, but please check what I've done with it.

4) All – please add some names and details on the team part so we get clarity in this on what staff you will need to do the work.

5) Please don't worry about keeping this to the 8 page limit. Just add text here and there, references, and edit to make what I've written correct, and more exciting. I will work on this on Saturday, Sunday and Monday to bring it down to 8 pages of very crisp, super-exciting text. I also want as many of your good ideas in here, so that I can use this draft to build on for the full proposal.

6) Finally – please edit rapidly using tracked changes in word. If you don't want to mess up endnote, please just insert references as comment boxes and we'll pull them off the web.

Aleksei and Anna: please read the draft and work on some draft image designs that sum up the project flow. I'll call you Thursday afternoon to discuss so you can finish them off.
Luke – please have a go at a first draft of the executive summary slide. I'll pick up from what you've done once you send it to me.

Thanks again to all of you for agreeing to collaborate on this proposal. From what I know of the competition, what DARPA wants, and what we're offering, I think we have an extremely strong team, so I'm looking forward to getting the full proposal together and winning this contract!

Cheers,

Peter

Peter Daszak
President

EcoHealth Alliance
460 West 34th Street – 17th Floor
New York, NY 10001

Tel. +1 212-380-4473
www.ecohealthalliance.org

EcoHealth Alliance leads cutting-edge research into the critical connections between human and wildlife health and delicate ecosystems. With this science we develop solutions that prevent pandemics and promote conservation.

DARPA – PREEMPT – HR001118S0017

Abstract Submission Requirements:

**8 pages with 12 point font or higher (smaller font may be used for figures, tables and charts)

**Page limit includes all figures, tables, charts and the Executive Summary Slide

**Copies of all documents submitted must be clearly labeled with the following:

-DARPA BAA number

-Proposer Organization

-Proposal title/Proposal short title

-Submission letter is optional and does not count towards page limit

A. Cover Sheet (does not count towards page limit):

Include the administrative and technical points of contact (name, address, phone, fax, email, lead organization). Also include the BAA number, title of the proposed project, primary subcontractors, estimated cost, duration of project, and the label "ABSTRACT."

B. Executive Summary Slide:

Provide a one slide summary in PowerPoint that effectively and succinctly conveys the main objective, key innovations, expected impact, and other unique aspects of the proposed project. Use the slide template provided at http://www.fbo.gov.

****See slide template at bottom of document.**

PROJECT DEFUSE

C. Goals and Impact:

Clearly describe what is being proposed and what difference it will make (qualitatively and quantitatively), including brief answers to the following questions:

1. What is the proposed work attempting to accomplish or do?

We aim to **defuse the potential for emergence of novel bat-origin high-zoonotic risk SARS-related coronaviruses** in Southeast Asia. We envisage a scenario whereby the US warfighter is called on to intervene in a security hotspot in SE Asia for a period of 3-6 months. As planners begin choosing sites for the mission, they will use an app we will design to assess the background risk of a site harboring dangerous zoonotic viruses. If

spillover.

2. How is it done today? And what are the limitations?
Currently, there is no available technology to reduce the risk of exposure to novel coronaviruses from bats, other than avoid the regions where bats harbor these viruses. This includes large areas of southeast Asia where SARS-related CoVs are endemic in bats, which roost in caves during the day, but forage over wide areas at night, shedding virus in their feces and urine. The limitations of this lack of capacity are significant – we have shown evidence of recent spillover of SARS-related CoVs into people in southern China, and have identified viruses in this region that are capable of producing SARS-like illness in humanized mice, with no available vaccines or countermeasures. These viruses are a clear-and-present danger to our military personnel, and to global health security.

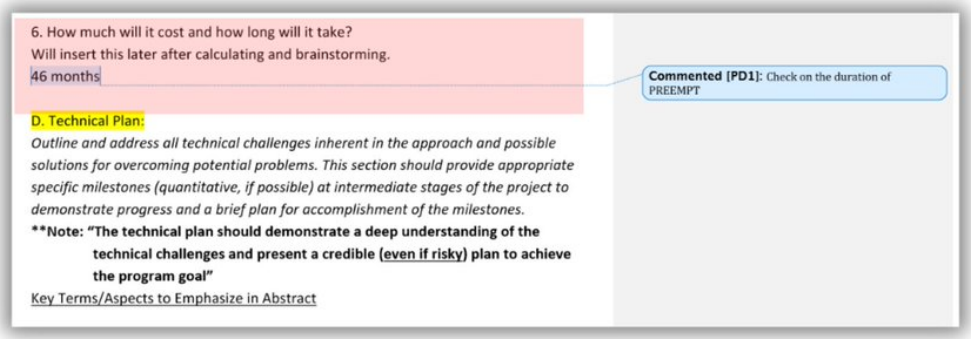
3. What is innovative in your approach and how does it compare to current practice and state-of-the-art (SOA)?
****Note: DARPA wants to know, "how the proposed project is revolutionary and how it significantly rises above the current state of the art**
Our group has shown that bats harbor the highest proportion of potential zoonoses of any mammal group, and that they are able to live with high viral loads due to unique damping of their immune systems, likely as an evolutionary adaptation to flight. We will use this to design strategies to upregulate their immune response in their cave roosts, down-regulate viral replication, and reduce the risk of viral shedding and spillover (immune boosting strategy). At the same time, we will inoculate bats with novel chimeric polyvalent recombinant spike proteins to enhance their immune response against replication of specific, high-risk viruses (immune priming strategy). We will use our innovative modeling to design apps that identify the likelihood of any region harboring high-risk bat viruses. We will design novel, automated approaches to deliver both types of inoculum remotely into caves to reduce exposure risk during decontamination.

4. What are the key technical challenges in your approach and how do you plan to overcome these?
Decide which of following parts to talk about:

3🧵They are clear with their intentions stating, "we will inoculate bats with novel chimeric polyvalent
recombinant spike proteins to enhance their immune response." they even list "Gain of Function"

Modeling bat suitability
Inventory of caves
Sampling/testing
Reverse engineering, binding assays, mouse expts
Modeling viral risk of evolution and spillover
Modeling inoculation/defusing strategy
Immune modulation
Immune Booster recombinant production
Gain-of-function issue.
Inoculum delivery
Mesocosm expts
Cave expts

5. Who will care and what will the impact be if you are successful?
This will have direct relevance to the warfighter. The potential for deployment to the region in which bat hosts of SARS-related CoVs exist is high – countries include security hotspots (Myanmar, Bangladesh, Pakistan, Lao, Korea). The ability to decontaminate and defuse these viruses will be useful in preventing potentially devastating illness. Furthermore, these technologies, if successful, can be adapted to hosts of other bat-origin CoVs (MERS, SADS), and potentially other zoonotic bat-origin viruses (Hendra, Nipah, EBOV). Finally, our approach is directly applicable to public health measures in the region to reduce the risk of spillover into the general population, as well as for food security by reducing the risk of viruses like SADS-CoV spilling over from bats into intensive pig farms, and devastating and industry, leading to potential civil unrest.


6. How much will it cost and how long will it take?
Will insert this later after calculating and brainstorming.
46 months

Commented [PD1]: Check on the duration of PREEMPT

D. Technical Plan:
Outline and address all technical challenges inherent in the approach and possible solutions for overcoming potential problems. This section should provide appropriate specific milestones (quantitative, if possible) at intermediate stages of the project to demonstrate progress and a brief plan for accomplishment of the milestones.
****Note: "The technical plan should demonstrate a deep understanding of the technical challenges and present a credible (even if risky) plan to achieve the program goal"**
Key Terms/Aspects to Emphasize in Abstract

by DARPA, including genome editing (CRISPR or RNAi), vaccination or DIP bats, in terms of its deployability and scalability. Finally, we will inoculate bats with fragments of non-bat Coronavirus (DETAILS).

Prof. Ralph Baric (UNC) will lead the immune priming work, building on his track record in reverse-engineering and manipulating SARS-CoV, MERS-CoV and other virus spike proteins over the last two decades . He will develop recombinant chimeric spike-proteins (*8*) based on SARSr-CoVs we have already identified, and those we will discover and characterize during project DEFUSE. RALPH – clearly I didn't really understand the details of your approach. Can you add a couple of paragraphs here and some citations please!

While there are clear advantages to working with fixed populations of cave-dwelling bats, molecule or vaccine delivery is technically challenging. Dr. Tonie Rocke, who developed, trialed, field-tested and rolled out the prairie dog plague vaccine (*9*), and is currently working on vaccines to bat rabies (*10, 11*) and white-nose syndrome, will manage a series of experiments in the lab and field to perfect a delivery system for both arms of TA2.

We will conduct initial experiments on a lab colony of wild-caught *Rhinolophus sinicus* bats at Wuhan Institute of Zoology. We (Prof. Wang) have previous experience conducting infection experiments on this bat genus …(details and citation if possible). First, we will use our recently proven technology to design LIPS assays to the specific high zoonotic-risk SARSr-CoVs (*12*). We will conduct serological analysis on bats captured for infection experiments, to assess prior exposure to specific strains. These LIPS assays will be made available for use in people to assess exposure of the general population around bat caves in China, and for potential use by the warfighter to assess exposure to SARSr-CoVs during combat missions.

Finally, work on a delivery method will be overseen by Dr. Tonie Rocke at the National Wildlife Health Center who has proven capacity to develop and take animal vaccines through to licensure (*9*). Using her captive Jamaican fruitbat colony (*10, 11*), Dr. Rocke will trial out the following strategies for delivery of the molecules, inocula proposed above: 1) aerosolization; 2) transdermally applied nanoparticles; 3) sticky edible spray that bats will groom from each other; 4) automated spray triggered by timers and movement detectors at critical cave entry points.. (Details and ideas please Tonie!). These approaches will then be trialed out on live bats in our three cave sites in Yunnan Province. Fieldwork will be conducted under the auspices of Dr. Rocke, EHA field staff, and Dr. Yunzhi Zhang (Yunnan CDC, Consultant with EcoHealth Alliance). Sections of bat caves will be cordoned off and different application methods trialed out. A small number of bats will be captured and assayed for viral load after treatment, but so as not to disturb the colony, most viral load work will be conducted on fresh fecal pellets

4🧵The attempt to lie for $ is clear; "I do want to stress the US side of this proposal so that DARPA are comfortable w/ our team. Once we get the funds, we can then allocate who does what exact work, & I believe that a lot of these assays can be done in Wuhan." says Daszak

distribution of bat hosts, we have access to biological inventory data on all bat caves in Southern China, as well as information on species distributions across SE Asia from the literature and museum records. We will use radio- and satellite telemetry to identify the home range of each species of bat in the caves, to assess how widely the viral 'plume' could contaminate surrounding regions, and therefore how wide the risk zone is for the warfighter positioned close to bat caves.

We will build environmental niche models using the data above, and environmental and ecological correlates, and traits of cave species communities (eg. phylogenetic and functional diversity), to predict the species composition of bat caves across Southern China, South and SE Asia. We will validate these with data from the current project and data from PREDICT sampling in Thailand, Indonesia, Malaysia and other SE Asian countries. We will then use our unique database of bat host-viral relationships updated from our recent *Nature* paper (*1*) to assess the likelihood of low- or high-risk SARSr-CoVs being present in a cave at any site across the region. At the end of Yr 1, we will use these analyses to produce a prototype app for the warfighter that identifies the likelihood of bats harboring dangerous viral pathogens based on these analyses. **The 'high-risk bats near me' app** will be updated as new host-viral surveillance data comes on line from our project and others, to ground-truth and fine-tune its predictive capacity. Specifically, our telemetry data on bat movement will be used to assess how often bats from high-risk caves migrate to other colonies and potentially spread their high-risk strains.

The Wuhan Institute of Virology team will conduct viral testing on samples from all bat species in the caves as part of this inventory. Fecal, oral, blood and urogenital samples will be collected from bats using standard capture techniques as we have done for the last decade. In addition, tarps will be laid down in caves to assess the feasibility of surveys using pooled fresh fecal and urine samples. Assays will be designed to correlate viral load in an individual with viral shedding in a fecal sample. Once this is complete, surveys will continue largely on fecal samples so as not to disturb bat colonies and undermine longitudinal sampling capacity. Samples will be tested by PCR and spike proteins of all SARS-related CoVs sequenced. Analyses of phylogeny, recombination events, and further characterization of high-risk viruses (those with spike proteins close to SARS-CoV) will be carried out (REF). Isolation will be attempted on a subset of samples with novel SARSr-CoVs. Prof. Ralph Baric, UNC, will reverse engineer spike proteins in his lab to conduct binding assays to human ACE2 (the SARS-CoV receptor). Proteins that bind will then be inserted into SARS-CoV backbones, and inoculated into humanized mice to assess their capacity to cause SARS-like disease, and their ability to be blocked by monoclonal therapies, or vaccines against SARS-CoV (REF).

The modeling team will use these data to build models of 1) risk of viral

Commented [PD3]: Could add " We will continue monitoring the human population proximal to these caves to assess the rates of viral spillover, and ground-truth which specific CoVs are able to infect people

"*Once we get the funds* we can then allocate who doe what exact work and I believe that a lot of these assays can be done in Wuhan.."

Commented [PD4]: Ralph, Zhengli. If we win this contract, I do not propose that all of this work will necessarily be conducted by Ralph, but I do want to stress the US side of this proposal so that DARPA are comfortable with our team. Once we get the funds, we can then allocate who does what exact work, and I believe that a lot of these assays can be done in Wuhan as well...

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Team:
Lead Organization: EcoHealth Alliance, New York
PI: Peter Daszak Ph.D., President & Chief Scientist, EcoHealth Alliance, 3 months/year
Key Personnel:
Billy Karesh DVM, Executive VP for Policy & Health, 1 month/year
Kevin J. Olival Ph.D, VP for Scientific Research, 1 month/year
Jonathan H. Epstein DVM Ph.D., VP for Science & Outreach, 0.5 months/year
Carlos Zambrana-Torrelio Ph.D., Assoc. VP for Conservation & Health, 1 month/year
Noam Ross Ph.D., Senior Research Scientist, 2 months/year
Evan Eskew, Research Scientist, 2 months/year
Hongying Li, Program Coordinator, China Programs, 3 months/year
TBD Postdoctoral Researcher modeling and analysis, 12 months/year
TBD Research Assistant, 12 months/year
TBD Program Assistant, 12 months/year
Guangjian Zhu Ph.D., Consultant Field Lead, China Programs, 6 months/year
Yunzhi Zhang Ph.D., Consultant, Yunnan CDC, China, 2 months/year

Subcontract #1: University of North Carolina Medical School
Organizational Lead: Prof. Ralph Baric Ph.D., 2 months/year
XXX
TBD Research Assistant, 12 months/year

Subcontract #2: USGS National Wildlife Health Center
Organizational Lead: Tonie Rocke Ph.D., 2 months/year, no salary requested
TBD Research Technician, 9 months/year

Subcontract #3: Duke NUS, Singapore
Organizational Lead: Prof. Linfa Wang Ph.D., 2 months/year
XXX
TBD Research Assistant, 12 months/year
XXX

Subcontract #4: Wuhan Institute of Virology, China
Organizational Lead: Prof Zhengli Shi Ph.D., 2 months/year
Peng Zhou Ph.D., 2 months/year
TBD Research Assistant, 12 months/year

5🧵Methods planned in the draft say "aerosolization" & "transdermally applied Nanoparticle." Baric & Daszak try to downplay Shi/WIVs role in the work despite noting that DARPA would dislike it, & the BSL2 labs in China were handling SARS- a BSL3 selected agent.

ARC - aerosols

William B. Karesh (b) (6) @gmail.com>
Fri 2/2/2018 12:34 PM
To: Rocke, Tonie E <trocke@usgs.gov>; Peter Daszak <daszak@ecohealthalliance.org>
Cc: Luke Hamel <hamel@ecohealthalliance.org>

1 attachments (438 KB)
PARC.pdf;

parc
A Xerox Company

3333 Coyote Hill Road
Palo Alto, CA 94304 USA
+1 650 812 4000
engage@parc.com
www.parc.com

Project Overview

- PARC developed a unique spray technology for large area and high throughput aerosol delivery of highly viscous and concentrated fluids. These fluids can include a range of solutions, e.g., bioactive formulations. This technology has a potential application in large area inoculation of animals/humans with bioengineered formulations for pre-emptive reduction of disease transfer.
- PARC has expertise in fluid/aerosol delivery, leveraging the unique spray method that can aerosolize fluids independent of viscosity or bioactive concentration. This technique enables partners in the biological space to deliver bioactive formulations to animal models with improved chance of efficacy/bioavailability. Potential technical challenges to overcome will be systems integration with rapid development/preparation of pre-emptive agents (potentially with on-demand concentration and composition) and in testing the biological response with animal models.
- PARC can have significant involvement in Technical Area 2 of a PRE-EMPT project: development of a scalable aerosol delivery method for wide-scale inoculation of animal models.

Teaming Overview and Objectives

- PARC has worked with both commercial and university partners for applications of this technology.
- PARC has expertise in fluid delivery, droplet generation, and device and systems integration drawing on our long history with developing printing systems (ink-on-paper). PARC will leverage both previous and on-going work and our related IP portfolio on fluid delivery using platform technologies (spray, transdermal delivery) to meet the PRE-EMPT program objectives.
- PARC has the institutional assets to develop and fabricate new systems for spraying, as well as the background to help improve spray formulation for uptake in mucosal and other targeted membranes.
- PARC is well-positioned to advance its unique spray technology for the PRE-EMPT program, given its demonstrated scalability and wide applicability across different fluids (ranging from low to very high viscosity and independent of bioactive concentration/loading). PARC is looking for collaborators who will investigate disease transmission across animal species and develop the necessary pre-emptive biologicals to prevent such transmission. These engineered biologicals can then be delivered to animal models using the spray technology with maximum chance for efficacy and bioavailability.

Contact Information

Dr. Jerome Unidad; email: Jerome.Unidad@parc.com; telephone: 650-812-4209

by DARPA, including genome editing (CRISPR or RNAi), vaccination or DIP bats, in terms of its deployability and scalability. Finally, we will inoculate bats with fragments of non-bat Coronavirus (DETAILS).

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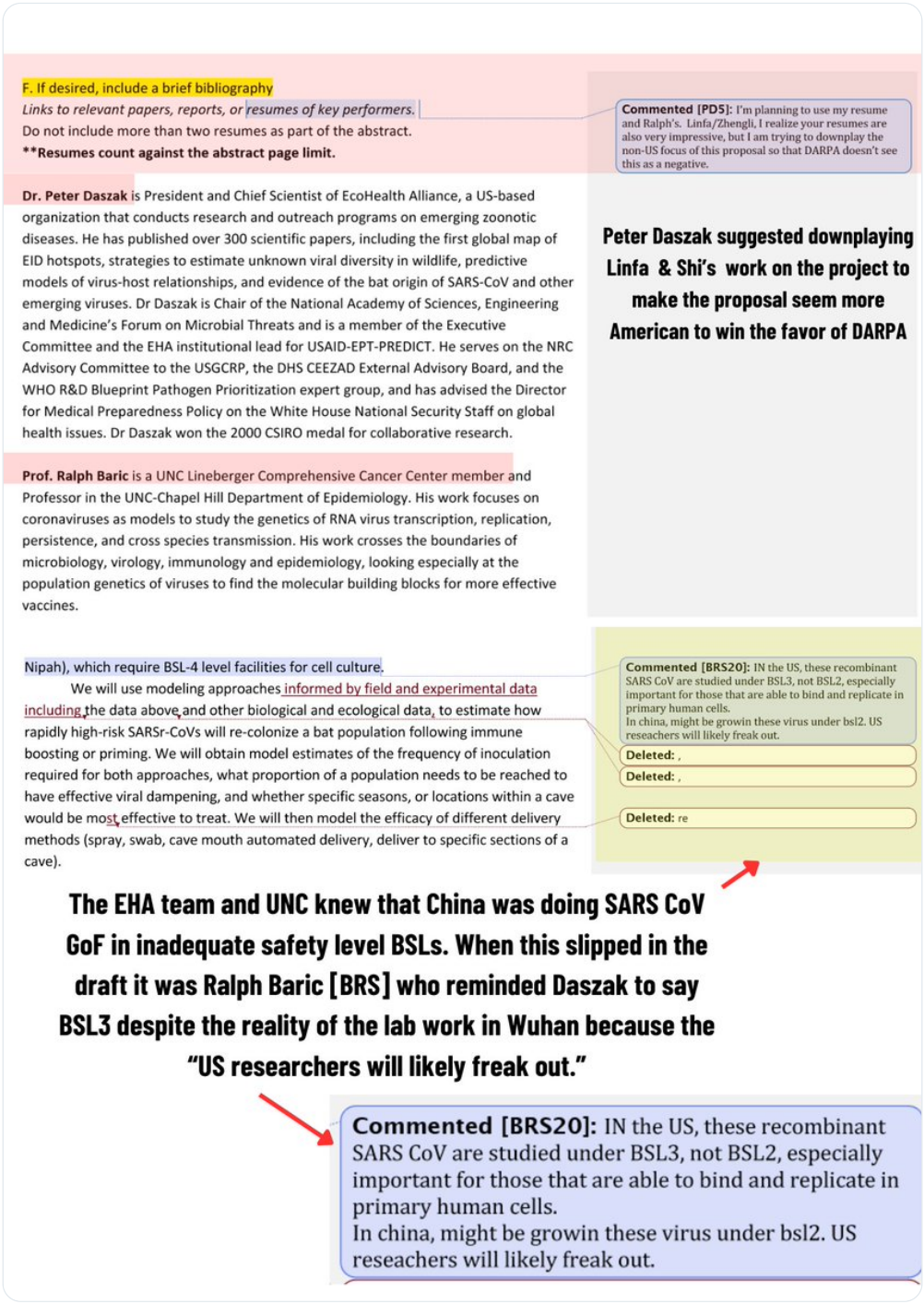
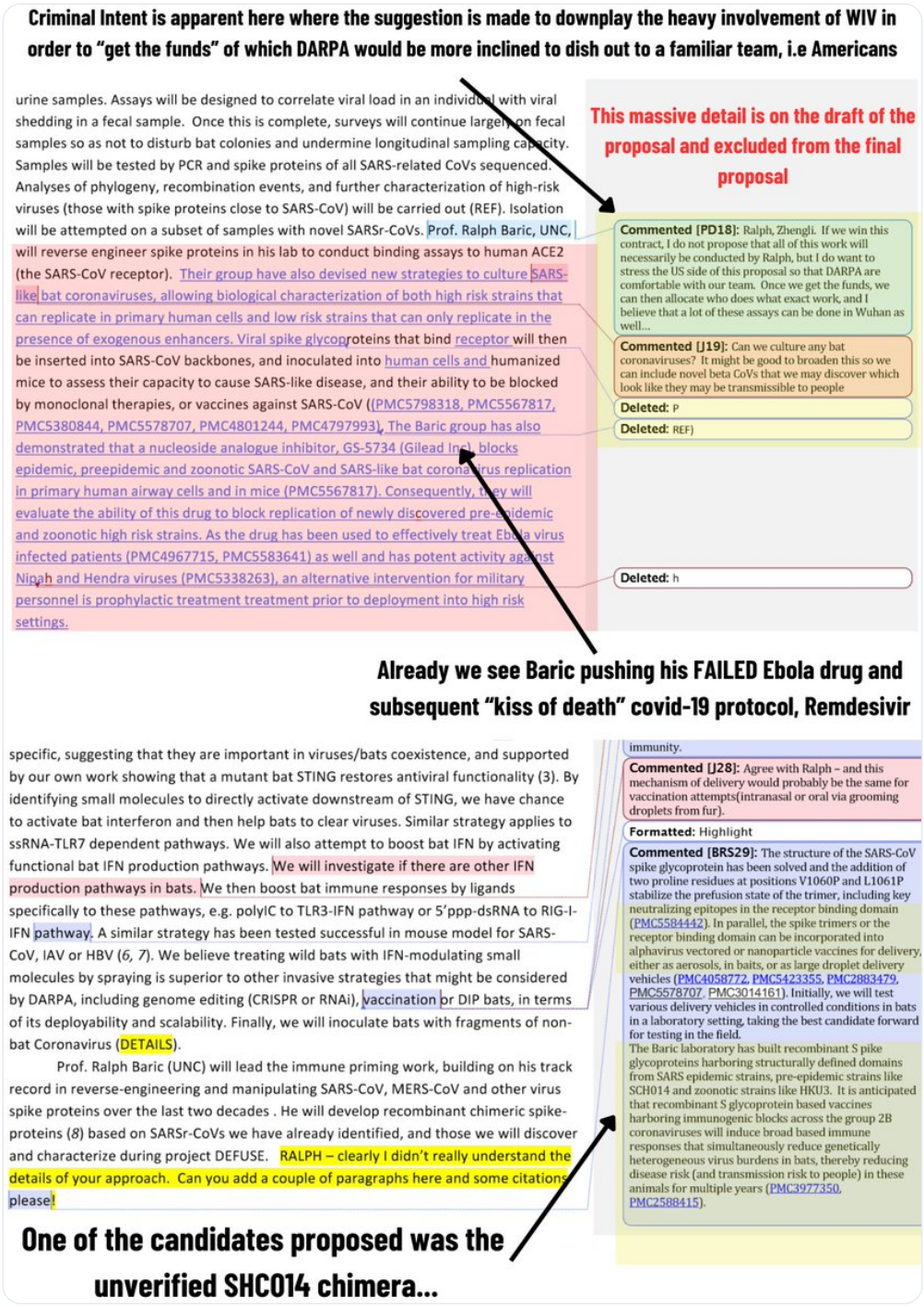


6🧵The plan was to use aerosolized agents to inoculate the bat caves in China, chimerically alter the viruses, enhance them & create biologics. Oh, and also for RBS to try to re-purpose his FAILED Ebola poison, Remdesivir [GS-5734] to use it for CoV [which he later did for Covid-19]🤫 Also, the undocumented chimera SHC014 cited for use. Daszak's 5+wk old testimony has yet to be released-which begs the question; What else are they hiding? Until our leaders take the initiative, we won't know. People, no, BILLIONS of people have lost; jobs, education, loved ones, livelihoods, freedoms and normalcy for 3 years. There was crimes committed in this pandemic. WE did the hard time..now it's time that the criminals do theirs.



Source : https://usrtk.org/wp-content/uploads/2023/12/2021-006245-Combined-Records_Redacted-1-235.pdf

@threadreaderapp unroll

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